

## IN THE CLAIMS

Claims 1-45 (Canceled).

46. (New) A mass flow controller, comprising:

a flow input port located on a first end of the controller;

a flow output port located on the same first end of the controller;

a sensor unit in fluid connection with the input port and the output port;

a first channel for carrying a first amount of fluid from the input port to the output port;

a second channel for carrying a second amount of fluid through the sensor unit, wherein the second amount is less than the first amount;

an orifice assembly coupled to the output port, wherein the orifice assembly has at least one orifice opening;

a magnetic field generator coupled between the orifice assembly and the sensor, wherein the magnetic field generator, in response to the sensor unit, generates a magnetic flux to move the at least one orifice opening and allow fluid flow through the at least one orifice opening; and

a controller block section surrounding the first and second channels, the orifice assembly, and the magnetic field generator.